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ABSTRACT

An exploratory study examined the relationship between individual, family, and work variables and working mothers' health. The study also investigated the relationship between health management strategies and health. A cross-sectional survey design was used to gather data from 85 women who were married, employed 20 hours a week or more, and had one child between 1 and 12 months of age. Participants completed a questionnaire that included measures of individual, family, and work factors, and current health status. Findings indicated that working mothers often report decreased emotional well-being, fatigue, and physical symptoms associated with stress from multiple roles. Each component of working mothers' lives examined in the study was significantly associated with their health; however, the strongest relationships with health were found between characteristics of the individual and mothers' feelings about their marriages and being separated from their children. Means by which working mothers promoted their own well-being included engaging in self-actualizing behaviors, managing stress, and making use of interpersonal support. It is concluded that the findings provide important directions for future research on interventions to promote and restore the health of working mothers. (RH)

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Symposium Title: WOMEN, WORK, AND THE CAREGIVING ENVIRONMENT

Presentation Title: INTEGRATING WORK AND FAMILY: WOMEN'S HEALTH OUTCOMES

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Introduction and Purpose. Over half of mothers return to work within the first year of their infants' life. Interest in maternal employment has focused predominantly on its impact on children; lacking is research that examines the impact on maternal health and well-being of returning to work while simultaneously adjusting to parenthood. Literature suggests that the stress of the multiple roles of worker, wife, and mother has health damaging consequences for some women. However, we know little about what part of this equation (work, family, or individual characteristics) is most important in explaining women's health outcomes. Such understanding would help those of us who are interesting in developing interventions to help women promote or restore their health. This paper reports our exploratory efforts in this arena: it 1) examines the relationship between the domains of individual, family, and work variables and working mothers' health and 2) specifically, describes the relationship between health management strategies and health.

Background. The proportion of women who return to work within the first year after the birth of their first child has nearly doubled in the past decade. It is currently estimated that over half of mothers will return to paid employment before their child's first birthday. In general, employed women report better health than their non-employed counterparts (Repetti, Mathews, & Waldron, 1989). However, a subset of working mothers experience particular difficulty with health problems such as fatigue, depression, and infectious diseases or find their ability to function impaired due to poor health. A recent study by Mercer (1986) ifound that up to 80 percent of mothers experienced fatigue, headaches, colds, and depression during the first postpartum year. Illness symptoms may result in work absenteeism or may affect mothers' level of functioning in work and family roles.

Literature suggests that employment may have beneficial or detrimental effects on women's health depending on the context of her multiple roles, including individual factors (e.g. self-esteem, resilience, health

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behaviors), family factors (marital satisfaction and support, parenting stess), and work factors (e.g. work environment, work satisfaction) (Repetti et al, 1989; Woods, 1985). Also, in an effort to meet family and work demands, women may neglect the self-care activities that promote and maintain their own health (Walker, 1991). While individual, work, and family variables are no-doubt interrelated in their effects on maternal health, the unique relationships between each of these conceptual domains and employed mothers' health have not been investigated to the extent that we can identify useful directions for interventions aimed at promoting mother's health.

Methods. This study used a cross-sectional survey design to gather data from 85 women who were married, employed 20 hours/week or more, and had one child between one and twelve months of age. Participants were recruited through advertisements in public media in the Seattle area. Participants completed a mailed questionnaire that included measures of individual factors, work factors, family factors, and current health status. Dimensions of each conceptual domain and their measurement in this study are as follows:

Individual factors	
Resilience	Resilience Scale (Wagnild & Young, 1989)
Self esteem	Rosenberg Self Esteem Scale (Rosenberg, 1965)
Health behaviors	Health Promoting Lifestyle Profile (Walker et al, 1987)
Family factors	
Parenting stress	Parenting Stress Index (Lloyd & Abidin, 1985)
Attds. about Separation	Maternal Separation Anxiety Scale (DeMeis et al, 1985)
Marital satisfaction	Roach Marital Satisfaction Scale (Roach et al, 1981)
Household work	Household Task Responsibility Scale (Killien, 1982)
Role equity	Equity Scale (Hughes, 1987)
Work factors	
Work environment	Work Environment Scale (Moos & Moos, 1986)
Job satisfaction	Minnesota Satisfaction Scale (Wiess et al, 1967)
Job rewards	Job Rewards Scale (Wontman et al, 1986)
Work Interference	Family/Work Interference Scale (Hughes, 1987)
Health	
Symptoms	Symptoms of Stress Scale (Thompson et al, 1986)
Depression	Beck Depression Inventory (Beck & Beck, 1972)
Mood	Profile of Mood States (McNair et al, 1981)
Functioning	Perceived Functional Ability Scale (Kogan, 1987)

Findings. Participants ranged in age from 22-43 years, with a mean age of 30.7. At the time of

questionnaire completion their infants ranged in age from 2-12 months. Over 75% of the sample had bachelors or graduate degrees. All were married or living with a male partner in a committed relationship. Nearly half (42.4%) of the participants worked until the time of delivery; they returned to work between one and 46 weeks postpartum, with 2/3 returning to work by 12 weeks postpartum. Nearly half (47.6%) perceived returning to work as more difficult than expected. Participants reported working between 20-80 hours/week with a median of 37 hours/week. Median family income for the sample was $40-49,000/year.

Participants reported a wide variety and frequency of symptoms during the past month; symptom of stress scores ranged from 7.08 to 233.5 with a mean of 73.2. Depression scores ranged from 0 to 15, with a mean of 4.1. Women indicated functioning at between 2 and 91 percent of their optimal functional abilities is selected areas, with an overall mean of 49%.

In order to examine the relationships between health status and each of the conceptual domains (family, work, individual) analysis was performed in three steps: principal components analysis, multiple regression, and partial correlations.

1. Since each of the domains was represented by multiple scales, principal components analysis was used to consolidate the original scales into 1-3 principal components. The principal components for each conceptual domain are illustrated in the following slides. In the **individual** domain, one single component emerged from the analysis. Analysis of scales in the **family** domain resulted in three principal components. The scales to load most highly on the first component were the child and parent subscales of the Parenting Stress Index; this component therefore seems to indicate parenting stress. The second component could be referred to as the "second shift"; that is, it includes scales measuring how household work is divided between partners and how fair the woman perceives this divison of work to be. The third family component includes a measure of marital satisfaction and a measure of the woman's attitudes and beliefs about being separated from her child; this component seems to reflect satisfaction with selected aspects of her family roles of wife and mother. Analysis of scales in the **work** domain resulted in two principal components. The first component included the scales reflecting job satisfaction; the second component included the single scale measuring perceived interference between work and family. Finally, a single component of health emerged, including all four measures of health.

2. A series of three separate multiple regression analyses were then performed to examine the relationship between maternal health status and the components in each of the domains of individual, family, and work, while controlling for two additional variables, mother's age and the number of hours worked/week. These two subject characteristics had been identified in previous analyses as significantly correlated with maternal health; older mothers reported better health ($r=.24$), while health declined with the number of hours worked per week ($r=-.24$). In each of the regression analyses, the two control variables were entered first, and the components comprising the domain of interest (that is, individual or family or work) were entered as a block on the second step.

The next series of slides illustrate the results of the regressions for each of the domains with health. When maternal health was regressed on the two control variables of maternal age and work hours, and the single component in the individual domain, a total of 46% of the variance in health was explained, with 11% accounted for by the control variables and an additional 35% explained by the individual domain.

When maternal health was regressed on the same control variables and the three components of the family domain, 51% of the variance in health was explained, with the family components explaining 40% of the variance.

Finally, when maternal health was regressed on the control variables and the two principal components of the work domain, 32% of the variance in health was explained, with the work domain explaining 21% of the variance.

Thus, this phase of the analysis established that each of the three conceptual domains of individual, family, and work accounted for a significant ($p<.003$) portion of the variance in maternal health. However, the work domain was the least useful in explaining variation in health.

3. To more fully understand the contribution of each of these domains to maternal health, partial correlations were then performed between each of the principal components of each domain and health. This analysis allowed us to see the unique relationship between health and each component within a conceptual domain, not shared by the other principal components in the domain. The single component of the individual domain had the strongest partial correlation with health (.63). One component ("Family 3") within the family domain also had a strong partial correlation with health. This component included the

measure of marital satisfaction, and the measure of mother's attitudes and beliefs about being separated from her child. The other family components and the two work components were less strongly and significantly associated with maternal health, with one family component ("Family 2 which included measures of the division of household task responsibility) having a low (.09) and non-significant partial correlation with health.

Because the individual domain stood out as so important in explaining the variation in maternal health, we elected to examine it more closely. The partial correlations between health and each of the scales comprising this domain are shown on the following slide. Each of the scales, measuring health promoting behaviors, hardiness/resilience and self-esteem, had strong and significant partial correlations with health ($r = .59, .51, .56$, respectively). Health promoting behaviors had the strongest partial correlation with maternal health ($r = .59$, and of the three dimensions of individual characteristics is probably the most amenable to intervention. This scale includes six subscales measuring different types of health promoting behaviors, including self-actualizing behaviors, taking responsibility for one's own health, exercise, nutrition, interpersonal support, and stress management. When partial correlations were performed between health and each of these subscales, self-actualizing behaviors ($r = .66$), stress management ($r = .48$), and interpersonal support ($r = .36$) showed the strongest relationships with health.

Discussion. Working mothers often report decreased emotional well-being, fatigue, and physical symptoms associated with stress from multiple roles. This study sought to explore the relationships between health and specific characteristics of the individual and attributes of work and family roles, in an effort to identify which of these areas had the strongest relationships with health and to identify promising directions for future interventions with this population. Each of the components of working mother's lives examined in this study were significantly associated with their health. However, the strongest relationships with health were found between (1) characteristics of the individual, including self-esteem, resilience, and health behaviors, and (2) mothers' feelings about their marriages and being separated from their children. Further analysis of the association between specific health promoting behaviors and health indicated that engaging in self-actualizing behaviors, managing stress, and interpersonal support were means by which working mothers promoted their own well-being. Taken together, these findings provide important directions for future

research aimed at interventions to promote and restore the health of working mothers. It appears that interventions aimed at strengthening the woman's own resilience, esteem, and sense of self-actualization is one promising direction. A second direction for intervention would be a focus on the woman in the context of her relationships and life situation, including her marriage and her feelings about being separated from her child, especially for work-related reasons. This direction would include a focus on manageing stress and developing interpersonal support.

This study was exploratory in nature; the sample size prohibited more complex analyses (e.g. path analysis) that would allow for examination of interelationships among indivdual characteristics, family, work, and health. We are planning such analyses in our ongoing longitudinal study in this area. Also, the sample was more highly educated and older than the population of working mothers in this country. The voluntary and non-representitive nature of this sample does not allow speculation about how individual, family, and work factors influence the health of working mothers who may experience very different stressors and rewards in their lives.

Finally, although the results of this study pointed towards the usefulness of interventions to promote health at the individual and family level, the usefulness of strategies at the policy level cannot be negated. For example, mothers in this study who reported more difficulty being separated from their infants experienced poorer health. We also have data for this sample suggesting the major reason for returning to work was for financial reasons. More adequate parental leave policies would allow parents increased choice about when to separate from their infants, and therein have positive effects on their health.

Mothers of infants are returning to work in increasing proportions. Strategies to promote their health and well-being will have payoffs not only for women as individuals but also for their ability to be effective parents, partners, and workers. Our future efforts need to be directed towards not only understanding the complexity of women's lives, but also towards assisting them achieve wellness.

Principal Components Analysis: Individual Domain

Principal Component	Scales	Loading	%Var.
Individual	Resilience scale	.90	78%
	Self Esteem scale	.88	
	Health-Promoting Lifestyle Profile	.84	

Principal Components Analysis: Family Domain

Principal Component	Scales	Loading	%Var.
Family1	PSI: Child subscales	.90	75%
	PSI: Parent Subscales	.87	
Family2	Household Task Responsibility	.88	
	Equity scale	.75	
Family3	Maternal Separation Anxiety	.89	
	Marital Satisfaction	.67	

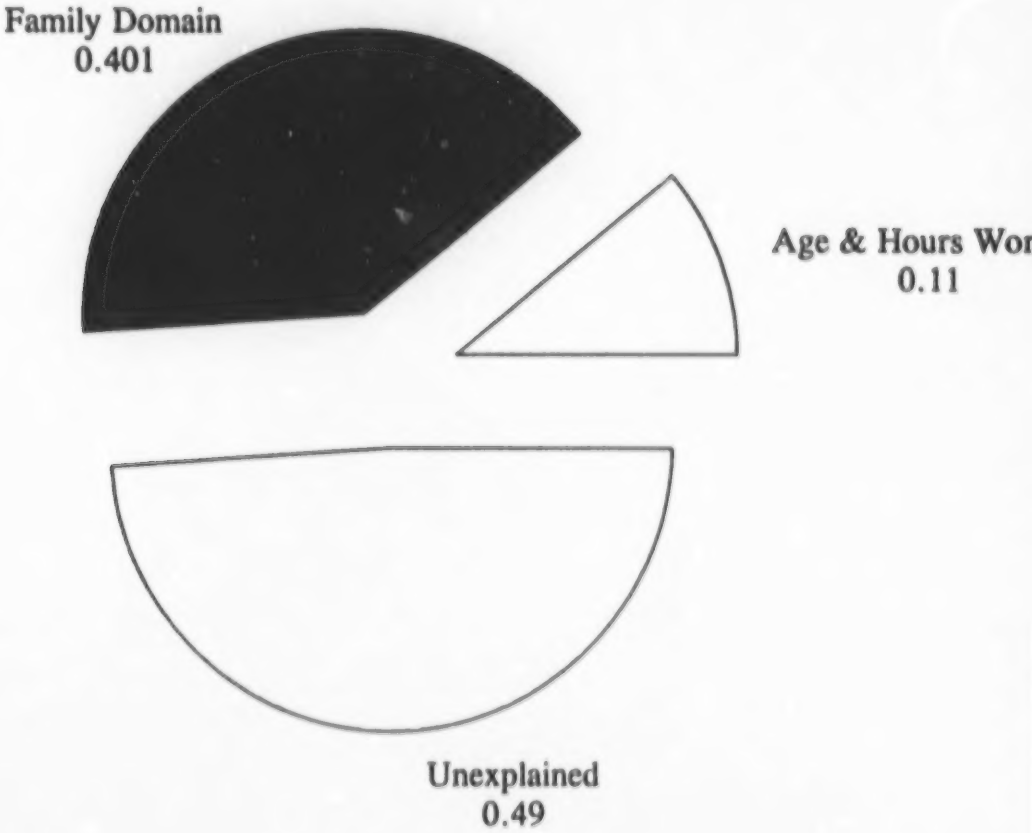
Principal Components Analysis: Work Domain

Principal Component	Scales	Loading	%Var.
Work1	Work Environment Scale	.89	86%
	Job Rewards	.88	
	Minnesota Satisfaction Questionnaire	.87	
Work2	Interference Scale	.98	

Principal Components Analysis: Health Domain

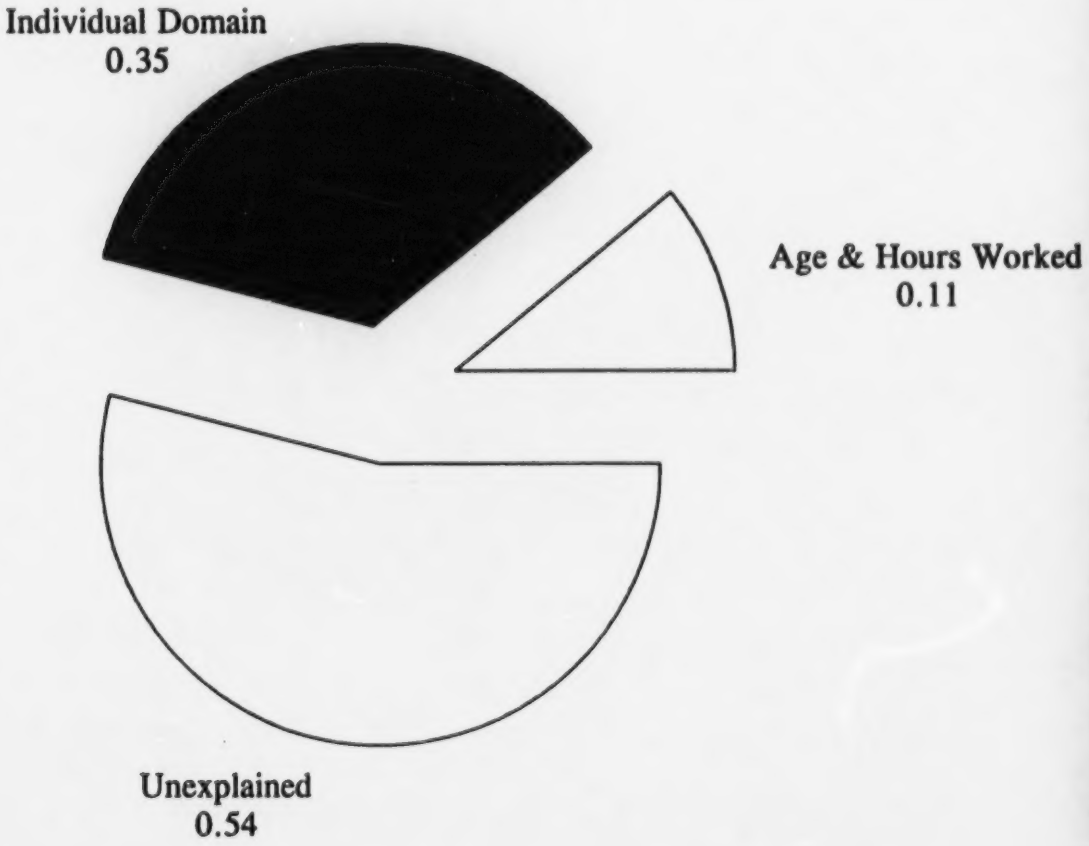
Principal Component	Scales	Loading	%Var.
Health	Profile of Mood States	.86	69%
	Beck Depression	.84	
	Symptoms of Stress	.82	
	Functional Ability Scale	.78	

Family Domain with Health
Controlled: Age and Hours Worked



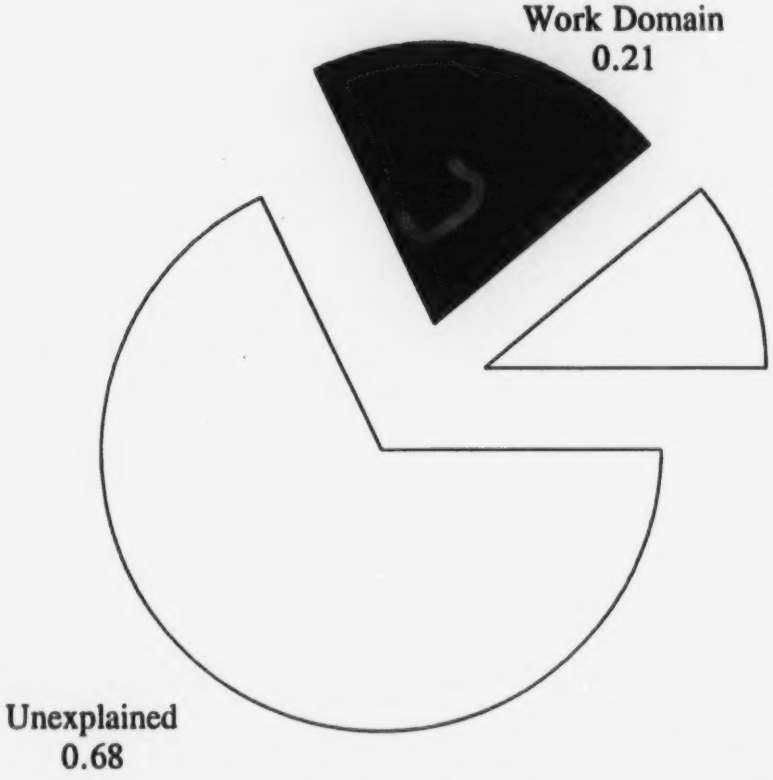
R2= .51 N=85 p<.003

Individual Domain with Health
Controlled: Age and Hours Worked



R2=.46 N=83 p<.003

Work Domain with Health
Controlled: Age and Hours Worked



R2=.32 N=85 P<.003

Partial Correlations: Domains with Health

Controlled: Age and Hours Worked

Component	Coefficient
Individual	.63***
Family1	.30**
Family2	.09
Family3	.57***
Work1	.34**
Work2	.39**

N=85 **p<.001 **p<.0001

Partial Correlations: Individual Domain with Health
Controlled Age and Hours Worked

Individual Domain	Coefficients
Health Promoting	.59***
Hardiness	.51***
Self Esteem	.56***

N=85 $p < .0001$

Partial Correlations: HPLP with Health
Controlled: Age and Hours Worked

Subscales	Coefficient
Self-actualization	.66***
Health responsibility	.29*
Exercise	.18
Nutrition	.29*
Interpersonal support	.36**
Stress management	.48***

N=85 * p>.01 **p>.001 ***p>.0001

Partial Correlations: Family1 with Health
Controlled: Age and Hours Worked

Family1	Coefficients
PSI: Child Subscales	.16**
PSI: Parent Subscales	.39***

N=85 ** p<.001 *** p<.0001

Partial Correlations: Family2 with Health

Controlled: Age and Hours Worked

Family2	Coefficients
Household Task Respon.	.08**
Equity Scale	.31***

N=85 ** p<.001 *** p<.0001

Partial Correlations: Family3 with Health
Controlled: Age and Hours Worked

Family3	Coefficients
Maternal Separation Anxiety	.40**
Marital Satisfaction	.65***

N=85 ** p<.001 *** p<.0001

Partial Correlations: Work1 with Health

Controlled: Age and Hours Worked

Scales	Coefficients
Work Environment Scale	.26
Job Rewards	.45***
Minnesota Satisfaction	.29*

N=85 * p<.01 ** p<.001 *** p<.0001

Partial Correlations: Work2 with Health
Controlled: Age and Hours Worked

Scales	Coefficients
Interference	.42***

N=85 ** p<.001 *** p<.0001